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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jae-Sun Kim

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JONES DAY  
222 EAST 41ST ST  
NEW YORK, NY 10017

EXAMINER

DEGHAN, QUEENIE S

ART UNIT

PAPER NUMBER

1791

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,742	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> Queenie Dehghan	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's disclosure of the prior art in view of Yamada (JP abstract 02-106144). The applicant discloses in the prior art a MCVD device comprising a quartz tube, a lathe capable of rotating and supporting the tube, a bubbler system capable of generating reaction gas, and a rotary connector interfacing with the bubbler and the lathe in page 1 & 2 of the specification. Yamada teaches a rotary connector (11a) that is surrounded by a sealing chamber for isolating the rotary connector from the external environment, and input and output pipes for flowing and discharging inert gas in the

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sealing chamber, wherein the sealing chamber is capable of being kept in an inert atmosphere (abstract, drawing 1). Yamada utilizes the sealing chamber to address the potential issue of a gas leaking from the rotary connector. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the sealing chamber filled with an inert gas in the MCVD apparatus disclosed in the prior art by the applicant to similarly address leakage of reaction gas through the rotary connector in the MCVD device.

4. Regarding claims 7 and 8 Yamada disclose gas valves located on the input pipe capable of controlling the pressure inside the sealing chamber to any desired value, such as between 0.5 to 1.5 atm.

5. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's disclosure of the prior art in view of Yamada (JP abstract 02-106144), as applied to claim 1 above, in further view of Gusto et al. (6,536,240). The applicant's prior art fails to disclose a cabinet for the lathe. Gouskov et al. teaches a cabinet (22) for enclosing a substrate (34) and its support structure from the external atmosphere, wherein the sealing chamber is capable of keeping an inert atmosphere within for a vapor deposition process. The cabinet further includes a gas torch (40) at the end of the cabinet capable of supplying inert gas (such a N<sub>2</sub>), a discharge hole capable of discharging the inert gas as well heated air near the substrate, and a gas purifier connected to the torch capable of controlling the moisture content of the inert gas to any desired value, such less than 100ppm (fig. 1, col. 5 lines 31-55, col. 6 lines 14-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to

have utilized the cabinet of Tobisaka et al in the apparatus of the applicant's prior art and Yamada because it is well known in the art to enclose a vapor deposition area in an optical fiber manufacturing process in order to control contaminants in the process.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's disclosure of the prior art in view of Yamada (JP abstract 02-106144), as applied to claim 1 above, in further view of Yamazaki et al. (2002/0029592). Yamada fail to disclose a pressure gauge. Yamazaki teaches an enclosure for treating an optical fiber preform wherein control of an inert atmosphere around the preform is vital.

Yamazaki teaches a pressure gauge used for measuring the internal pressure of the enclosure (figure 1, [0034]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a pressure gauge in the apparatus of Yamada as it commonly known to utilize such an instrument to maintained a controlled environment within an enclosure, as taught by Yamazaki.

7. Claims 12, 15-16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's disclosure of the prior art in view of Yamada (JP abstract 02-106144), as applied to claim 1 above, in further view of Schmitt (5,879,947). The applicant's disclosure fails to recite a bubbler cabinet. Schmitt teaches a delivery system comprising a bubbler capable of generating a reaction gas, a mass flow controller and a bubbler cabinet that is completely enclosed (col. 1 lines 15-30, col. 2 lines 9-18, fig 5). Schmitt also discloses an inert gas supply pipe/torch for supplying any inert gas, such as N<sub>2</sub>, He or Ar to the isolated area and a discharge hole for discharging inert gas out of the cabinet, both of which are capable of keeping the internal pressure

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of the bubble to any desired value (col. 3 lines 44-47). It would have been obvious to one of ordinary skill in the art at the time of the invention to have employed a bubbler cabinet with the inert gas supply and discharge in the apparatus of the applicant's disclosure in order to provided an enclosed environment for isolating any leakage from the bubbler system.

8. Claims 9-10 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's disclosure of the prior art in view of Yamada (JP abstract 02-106144), as applied to claims 1 and 15 respectively, in further view of Gouskov et al. (6,536,240). Yamada and Schmitt fail to teach a gas purifier. Gouskov teaches supplying an inert gas to an enclosure for a vapor deposition process comprising a gas purifier capable of removing moisture in the inert gas to any desired level such as less than 10ppm. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the gas purifier of Gouskov in the apparatus of the applicant's disclosure and Schmitt in order to maintain a low hydroxyl content in the environment in the manufacturing of the optical fiber preform.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's disclosure of the prior art, Yamada (JP abstract 02-106144) in view of Schmitt( 5,879,947), as applied to claim 12 above, in further view of Takeyama (JP abstract 09-066117). Schmitt fail to disclose a UV generator. Takeyama teaches a UV lamp in use with a bubbler for treating organic compounds in the solvent. It would have been obvious to one of ordinary skill in the art at the time of the invention to have

utilized a UV generator, such as UV lamp in the bubbler cabinet of Schmitt for the treatment of any organic contaminants in the reaction gas.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's disclosure of the prior art, Yamada (JP abstract 02-106144) in view of Schmitt( 5,879,947), as applied to claim 12 above, in further view of Collins et al. (5,078,922). Schmitt fails to disclose a laser generator. Collins et al. disclose laser used in a bubble for detecting the level of the liquid in the bubbler. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a laser generator in the bubbler cabinet of Schmitt in order to sense the level of the liquid in the bubbler.

### ***Response to Arguments***

1. Applicant's arguments filed January 23, 2009 have been fully considered but they are not persuasive.
2. In response to applicant's argument that the prior art of Yamada and the MCVD device of the applicant's prior art are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Yamada reference addresses a similar concern, the sealing of a rotary joint wherein gaseous components are flowed through from an external atmosphere by use of a sealing chamber filled with inert gas.

3. The applicant further argues Yamada fails to disclose the keeping of the sealing chamber in an inert gas atmosphere. In response to applicant's argument that Yamada fails to disclose the keeping of the sealing chamber in an inert gas atmosphere, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Hence, the sealing chamber of Yamada is capable of being kept in an inert atmosphere.

4. The applicant argues Yamada makes not provision for sealing out atmospheric gases and points to a seal at the other end of the bearing chamber. Yamada discloses in drawing 1 seals(4) for sealing in the bearing. Although not labeled, it is clear that the seals provided for on the opposite side of item 11a are also the same seals as seals (4). Therefore, the rotary connector is isolated from the external atmosphere.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any



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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/  
Supervisory Patent Examiner, Art  
Unit 1791

Q Dehghan